SPRINGBOARD™

Piece of Cake Math™

Instructions

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Available in the following formats:
Apple II+, IIe, IIc, IIgs
IBM PC, PCjr
Commodore 64

To the Parents

Don't you wish that you had learned that math can be fun when you were a child? Math is a piece of cake with this imaginative game! By adding color, sound and animation to math concepts, we have added fun to math learning.

These five games develop speed and accuracy in recalling math facts. Your child will visit a bakery and count the tasty cakes as they come out of the oven. The magical Bakery provides a fun way to learn to add, subtract, multiply and divide. By using more and more difficult levels of help, your child will quickly and easily sharpen his or her math skills in the games Multicake and Dividacake. Flashcards tests recall of math facts. Catchacake tests speed recall. And they're all fun!

The team of educators and child development specialists at Springboard Software is confident that your child will find this math program to be entertaining, challenging and a Piece of Cake!

Getting Started..Let's Load the Program

Apple

1. Insert the Piece of Cake Math disk into the disk drive.
2. Turn on the computer and the monitor.

Atari

1. While the computer is OFF, insert the BASIC cartridge into place. (The Atari 600XL and 800XL do not require the BASIC cartridge.)
2. Turn on the disk drive and insert the disk.
3. Turn on the computer and the monitor.

Commodore 64

1. Turn on the disk drive, monitor and computer.
2. Insert the Piece of Cake Math disk into the disk drive.
3. Type **LOAD "PIECE OF CAKE" , 8**
Press the RETURN key.
4. When READY appears on the screen, type **RUN** and press the RETURN key.
5. Your program will come up soon.

IBM PC, PCjr

This procedure should be used to make a disk which automatically runs when the computer is turned on or the **CTRL-ALT-DEL** keys are simultaneously pressed. It is assumed that you have already purchased the IBM Disk Operating System (DOS). Use of DOS 2.0 or 2.1 requires 128K of memory. Use of DOS 1.1 requires only 64K of memory. If you put DOS 2.0 or 2.1 onto the program disk, you will not be able to replace it with DOS 1.1 at a later date. (The PCjr requires 2.1 DOS.)

Directions for preparing the program disk with either one or two disk drives are as follows:

One Disk Drive Procedure:

1. Insert the DOS disk into drive A and turn the power on.
2. Enter the date and time. Wait for the A> prompt.
3. Remove the DOS disk from drive A and insert the program disk.
4. Type **B:SETUP** and press the RETURN key.
5. Each time the system asks for the drive B disk, insert the program disk into drive A. Each time the system asks for the drive A disk, insert the DOS disk into drive A.

After the final A> prompt the program disk is ready for use as a self-loading disk.

Two Disk Drive Procedure

1. Insert the DOS disk into drive A and the program disk into drive B.
2. Turn the computer on. Enter the date and time and wait for the A> prompt.
3. Type **B:SETUP** and press the RETURN key.

After a transfer of files the program disk will be ready for use as a self-loading disk.

General Instructions

Sound on/off

On the Apple and IBM PC computers, pressing **CTRL-S** turns the sound on and off.

The PCjr version will request which type of sound output you desire each time the disk is booted.

The Commodore sound comes out of your television and can be adjusted with its controls.

Picture Menu

An important feature of this program is the Picture Menu. It consists of a series of pictures representing each game enabling children to select the one they want to play.

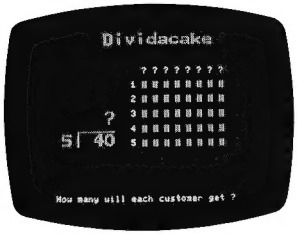
One at a time, the 5 pictures will come up on the screen. When you see the picture of the game you wish to play, simply press any key. That begins the game.

Games in Piece of Cake Math:

The Bakery

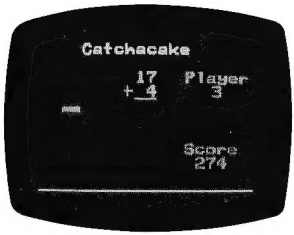
Multicake

Dividacake



Flashcards

Catchacake



To use a word menu:

1. Press the **CONTROL** key and the **W** key simultaneously while in the Picture Menu. A word menu will appear and you can select the game you want by pressing the appropriate number.

To exit any game and return to the Picture Menu:

For Apple Atari IBM	Press the **ESC**ape key
Commodore	Press any of the four large function keys on the right side of the computer

Overview of Games Included

Individual Games	Concepts & Skills Presented:
The Bakery	■ offers addition & subtraction word problems ■ allows child to visualize word problems ■ translates word problems into symbolic problems
Multicake	■ offers multiplication word problems ■ allows child to visualize word problems ■ translates word problems into symbolic problems
Dividacake	■ offers division word problems ■ builds an understanding of the relationship between division and multiplication problems
Flashcards	■ develops skills with addition, subtraction, multiplication, and division problems ■ offers multiple skill levels ■ develops carrying, borrowing, and problem solving strategies at advanced levels
Catchacake	■ develops speed and accuracy with addition, subtraction, multiplication or division

The Bakery

Every morning the bakers get up early and make some cakes, adding them to those left from the day before. Every afternoon, they sell some cakes, subtracting them from the ones they have.

Can you keep count of the cakes? Watch closely as the cakes are baked, stacked to cool, and then sold. If you have trouble, the bakers will help you. And, if there are any cakes left at the end of the week, maybe they'll have a party!

To Play:

1. Select "The Bakery" from the Picture or Word Menu.
2. One by one a problem will come up on the screen. Enter your answers using the number keys. (on IBM you can use the numeric keypad)

The difficulty level is adjusted automatically by the program according to the child's ability.

NOTE: To jump to the next of three levels of difficulty, press the CONTROL (CTRL) key and the J key at the same time. It will bring you back to the beginning of a new week at the bakery. When you have reached the highest level of difficulty the CTRL J will be ignored.

For more ideas see Additional Activities to extend learning both on and off the computer.

Multicake

In this game the bakers are cutting a cake into bite-size pieces. You will see the cake before they cut it, and you will be told how many slices they plan to make across and how many up and down.

Can you solve the multiplication problem and figure out how many pieces they will get? If you have trouble, the bakers will cut the cake so that you can count the pieces. But that's the hard way. It's much easier to multiply!

To Play:

1. Select "Multicake" from the Picture or Word Menu.
2. One by one a problem will come up on the screen. Enter your answers using the number keys. (on IBM you can use the numeric keypad)

As you enter the questions correctly, you will rise in rank from Beginner to

Novice
Clean-up Crew
Cutter's Helper
Apprentice
Caker Second Class
Cutter
Caker First Class
Expert
Master Caker

The difficulty level is adjusted automatically by the program according to the child's ability.

NOTE: To jump to the next of three levels of difficulty, press the CONTROL (CTRL) key and the J key at the same time. It will bring you back to the beginning of a new week at the bakery. When you have reached the highest level of difficulty the CTRL J will be ignored.

Dividacake

The bakers need to get just the right number of pieces from each of their cakes. They have already cut the cakes into slices. Tell them how many pieces they should cut each slice into. If you have trouble, the program will help you find the right answer and you will rise through the ranks.

To Play:

1. Select "Dividacake" from the Picture or Word Menu.
2. One by one a problem will come up on the screen. Enter your answers using the number keys. (on IBM you can use the numeric keypad)

As you enter questions correctly you will rise in rank from Beginner to

Novice
Clean-up Crew
Cutter's Helper
Apprentice
Caker Second Class
Cutter
Caker First Class
Expert
Master Caker

The difficulty level is adjusted automatically by the program according to the child's ability.

NOTE: To jump to the next of three levels of difficulty, press the CONTROL (CTRL) key and the J key at the same time. It will bring you back to the beginning of a new week at the bakery. When you have reached the highest level of difficulty, the CTRL J will be ignored.

Flashcards

Choose the type of problem and level of difficulty you want. After ten problems your score will be shown. If you did well, try a more difficult level or a different type of problem. Otherwise, try an easier level or ten more problems of the same kind. If you cannot correctly answer a problem within three tries, the answer will be displayed.

At the higher levels the problems are harder than most people can do in their heads. But if you are clever, even wrong answers can be helpful clues. See how far you can go!

To Play:

1. Select "Flashcards" from the Picture or Word Menu.
2. The program will ask you what type of problem you want: Add, Subtract, Multiply, or Divide.
3. Then you will be asked "What problem level would you like?"
   - Beginner
   - Learner
   - Junior Whiz
   - Champion
   - Supermath
4. One by one a problem will come up on the screen. Enter your answers using the number keys. (on IBM you can use the numeric keypad)

The difficulty level is adjusted automatically by the program according to the child's ability.

Catchacake

The bakers are always dropping cakes at Fumble's Bakery. You can save their business by catching the cakes before they fall splat on the floor. Play this game by yourself or with up to three friends. Pick the type of problems you want: addition, subtraction, multiplication or division. Each round provides five cakes for you to catch by answering the questions correctly. The sooner you catch the cakes the higher your score. But the higher your score is, the less time you have to catch the cakes before they hit the floor. If you score 1000 points, try a different type of problem.

Can you catchacake?

To Play:

1. Select "Catchacake" from the Picture or Word Menu.
2. One by one a problem will come up on the screen and you will have to enter your answers with the number keys (on IBM you can use the numeric keypad) before the cake hits the floor.

The difficulty level is adjusted automatically by the program according to the child's ability.

Additional Activities to Extend Learning Both On and Off the Computer

Age Range: 7-13

We have suggested this age range based on discussions with professionals teaching math to children. However, many children will be able to play Piece of Cake before seven if they can read well or if an adult plays with them. Some older children might enjoy Piece of Cake after they are thirteen in order to review and reinforce basic math concepts in an engaging manner. Watch your child play the games as a way to tune into your child's educational progress. You may want to share what you learn about your child with a teacher at school. Ask if he or she has any suggestions for strengthening weaknesses or capitalizing on your child's strengths in math.

The Bakery

The Bakery provides your child practice with addition and subtraction story problems. Many children avoid word problems because they find them difficult and frustrating. Piece of Cake has been designed to make solving story problems less threatening by providing visual hints when they are needed. This makes them more fun, more reinforcing, and more apt to be practiced.

Additional activities to extend learning on and off the computer

1. One of the major challenges of word problems is translating them into more workable number problems. You can help your child develop this skill by encouraging him or her to find words or phrases that indicate the type of problem (addition or subtraction in this case) and the numbers needed to solve it. Encourage your child to write down the symbols representing the words in the problem. This is a good habit to get into as it will continue to be helpful throughout your child's word problem solving career.

2. Each time your child answers incorrectly, a hint to the problem's solution will appear on the screen. Tell your child how this visual display can help solve the baker's questions about inventory. Restating the problem and pointing to the pictures might also be helpful.

3. When the child answers the question correctly or if he has missed the problem several times, the bakers animate and answer the word problem in preparation for the next question. When the animation appears, verbalize what is going on to help bring the story problem to life.

4. The potential for creating your own story problems exists throughout your child's world. Play math games in the house, in the car, on the way to school or on outings. Point out to your child that word problems can be fun both to solve and to make up.

Multicake

Multicake helps your child become more confident with multiplication word problems. As in the other math games, clues to solutions are provided when needed. This helps the child visualize the written words and translate them into more easily solved number problems.

Additional activities to extend learning on and off the computer

1. Help your child figure out what the word problem is asking him or her to do. Very often students have difficulty determining what type problem is to be solved. Point out relevant words in the question and encourage your child to write down the numbers and symbols they represent. Again, this is a skill that will be important in all his or her math courses.

2. If your child is consistently using the visual clues as a way of solving the problems, try to figure out what is giving him or her the most difficulty. Is it translating the words into numbers and symbols, or is it solving the multiplication part of the problem? If the words are creating difficulty, try using the suggestions in #1. If the multiplication is hard, help your child learn the multiplication tables. Encourage speaking the numbers out loud once the problem and solution appear on the screen. Some children memorize better by writing the problems down. Help your child find the study method most effective for him or her. Flashcards and Catchacake are also good ways in which to practice.

3. Take advantage of every opportunity that lends itself to a story problem. If someone is baking a cake, slicing bread, or cutting brownies, play a real life version of "multicake."

Dividacake

Dividacake is much like Bakery and Multicake because it provides practice with word problems in a supportive manner. The major difference, of course, is that it consists of division problems. If the child responds incorrectly, the game provides a string of clues toward the problem's solution. After all the hints have been given, Dividacake solves the problem and illustrates the relationship between the division problem and its multiplication counterpart in a visually attractive manner.

Additional activities to extend learning on and off the computer

1. Try to determine whether your child is having difficulty with the word part of the problem or the solution of the division problem. This will give you a clue as to how best to help your child with Dividacake. If he or she finds changing the words into numbers too hard, help pick out the relevant words and translate them into a symbolic phrase. Help your child memorize the division tables if he or she is having difficulty with the number part of the problem. Speaking the number out loud and writing down the problems help some kids. Drilling is also a good way to memorize the tables. In addition to practicing with your child, Piece of Cake offers Flashcards and Catchacake as fun ways to drill.

2. Even if your child is terrific with division word problems, encourage him or her to make mistakes on purpose in order to see the clue system that Dividacake offers. The game first translates the problem into words and symbols and then illustrates what the problem looks like visually. Drawing an image of the problem is a good way to tackle word problems–Dividacake models this skill beautifully!

3. After your child is on his or her way to mastering Multicake and Dividacake, play a mixed-up version of the two games. Have your child look away from the screen while you call up problems from either game. Your child must determine whether it is a division problem or a multiplication problem before solving it. This is difficult for many children and you may have to help your child pick out words that will help visualize and solve the problem.

Flashcards

Much of solving math problems is dependent upon knowing simple addition, subtraction, multiplication and division. Flashcards drills easy problems which help build a solid foundation and very difficult problems which most of us couldn't solve without a calculator. It is a nice way to challenge both the beginner and the advanced math student.

Additional activities to extend learning on and off the computer

1. Flashcards offers addition, subtraction, multiplication, and division problems. Each of these games has five levels ranging from simple to very difficult. You may need to help your child pick an appropriate game and level. Watch your child play Flashcards and other games in Piece of Cake, look at school books, and ask a teacher about strengths and weaknesses in math. This will help alleviate choosing something too challenging or too easy.

2. When problems become more difficult, Flashcards helps you solve the problem in steps like you would using paper and pencil. Watch for the flashing cursor and place the appropriate number in that spot. If your child is having difficulty remembering a number being carried or borrowed, fingers can be used to "hold" the number until it is needed.

3. If your child is learning how to use a calculator, Flashcards provides lots of problems to practice and answers to check against.

Catchacake

Catchacake helps improve both speed and proficiency with adding, subtracting, multiplying and dividing. The speed your child develops in answering these one-step questions will make future, more complicated math problems less overwhelming. Children like the game-like quality of catching cakes which makes practicing problems more fun. The game awards points for correct answers and subtracts points for incorrect answers or dropped cakes. As the child accumulates points, the bakers give them words of encouragement until they become super catchers.

Additional activities to extend learning on and off the computer

1. Catchacake is designed to handle up to four players. Enter yourself in the game and brush up on your math skills.

2. Some children can answer the questions quickly and correctly but can't type them in on the computer keyboard before the cakes fall. If you see your child having this problem, type in the answer they give to you. This allows practice with the problems and success with the game. Then, in order for your child to become more proficient with the console, you figure the answers and tell him or her the numbers to enter. This teamwork approach makes the game fun while reinforcing skills that your child will eventually be able to put together.

3. Keep track of the amount of time it takes to reach a certain score. For example, it may take 20 minutes to reach 500 on one day and only 17 minutes on another. By keeping a record, you can see changes in performance overtime.

4. If your child is learning multiplication or division tables at school, Catchacake is an enjoyable way to drill and learn them.

Limited Warranty

Springboard Software, Inc. warrants this software product against defects in manufacturing for a period of thirty days following purchase. If, during that period, you cannot properly load the program, you may return it together with proof-of-purchase date to Springboard for a replacement. After thirty days a replacement can be obtained by sending the original product and $5.00 to the manufacturer, provided that the software product is then being manufactured by the manufacturer.

Returns should be sent to: Springboard Software, Inc., 7808 Creekridge Circle, Minneapolis, Minnesota 55435.

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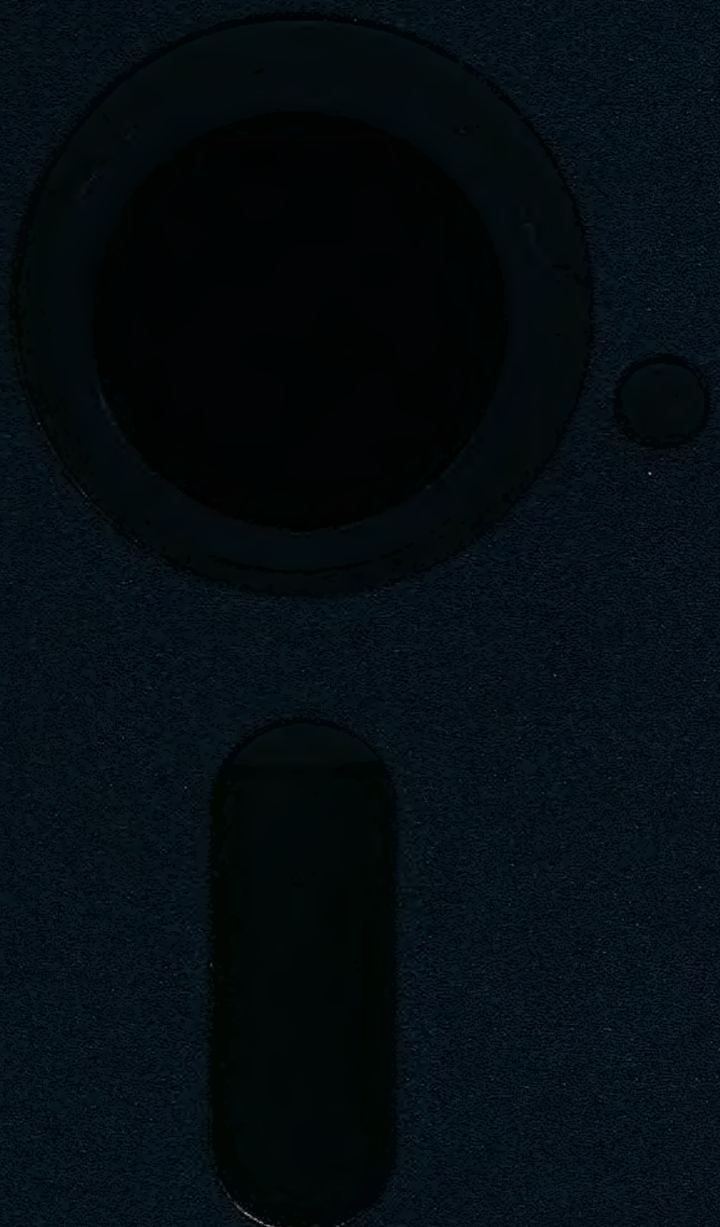
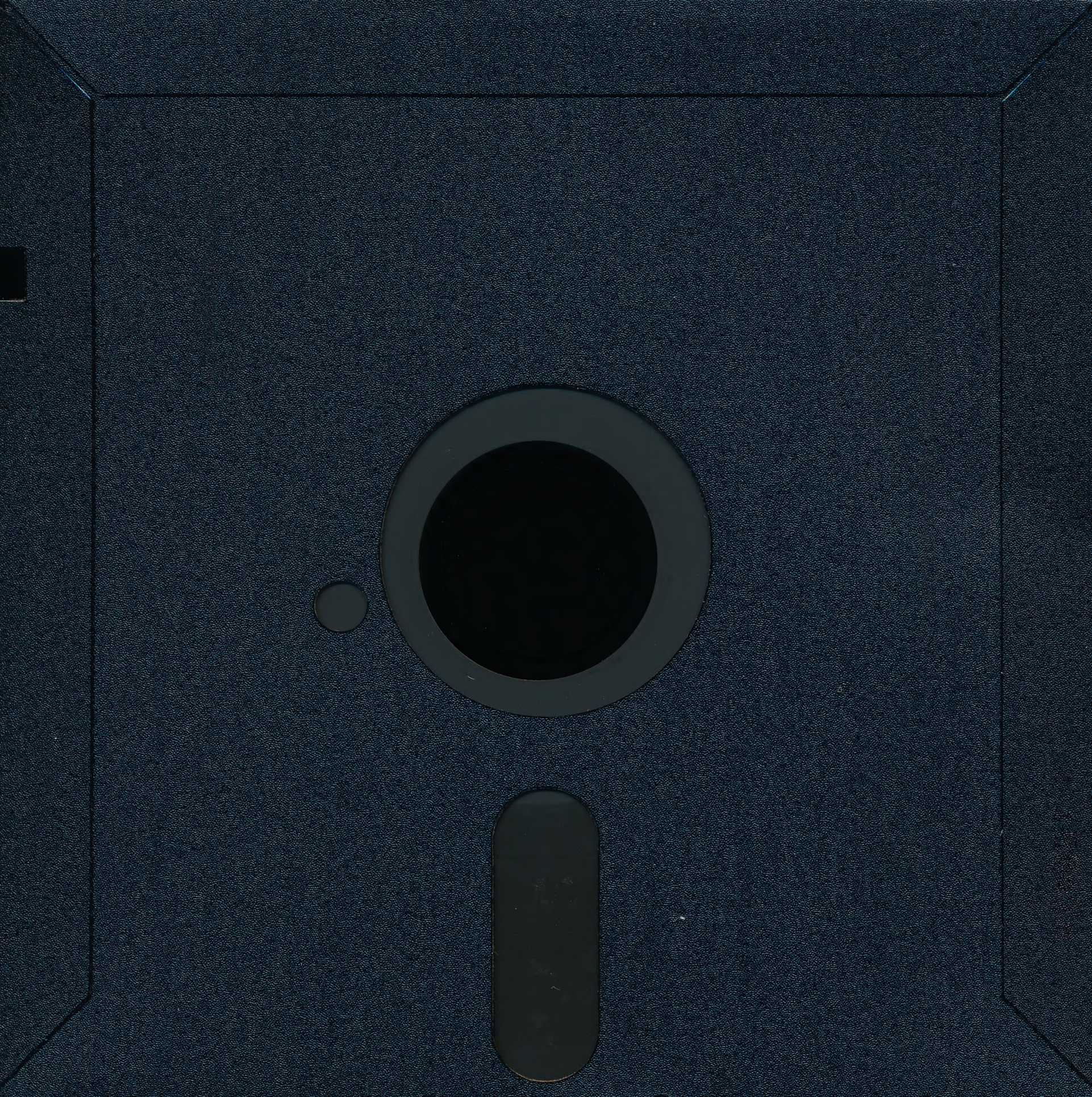
Piece of Cake Math®

Skill Builder Series for ages 7-13.

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